Alberta
EDUCATION

Devonian Building, West Tower, 11160 Jasper Avenue, Edmonton, Alberta, Canada T5K 0L2

January, 1983

TO THE READER:

Re: The Block Plan: An Alternative Approach for Junior High School Students

The report, Block Plan, 1980 - 1982, describes a project which was carried out during the 1980-81 and 1981-82 school years in Edith Rogers Junior High School in the Edmonton Public School District. The purpose of the project was to provide an easier transition for students from grade six who were entering grade seven in a large junior high school. To accomplish this, a block plan was instituted in grade seven, and each teacher taught two subjects such as language arts/social studies or science/mathematics. The result was that a student would see two teachers for the major portion of each day rather than having a different teacher for each subject.

At the conclusion of the first year of the project, three reports were compiled. These were as follows:

The Block Plan: An Alternative Approach for Junior High School Students
- a report on the first year of the project.

The Differentiated Support Option Handbook
- a report on a course offered four periods per week to low-achieving students in mathematics and language arts.

The Block Plan: Grade Seven Instructional Manual
- a description of instructional procedures and materials used in the project.

These reports were distributed in January, 1982. A very limited number of these reports are still available upon request from the Planning and Research Branch.

The present report, Block Plan, 1980 - 1982, describes the project and its evaluation with emphasis on the findings of the second year of the study.

Sincerely yours,

M.R. Fenske
Director
Planning & Research Branch

TWO YEARS ON THE BLOCK PLAN

MEETING THE NEEDS OF JUNIOR HIGH SCHOOL STUDENTS

Final Report 1982

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An Edmonton Public Schools Project
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Abstract

This report deals mainly with the second year of the Block Plan in grade seven in a large junior high school in Alberta. The first year of the study reported in The Block Plan (Alberta Education, October, 1981) involved conceptualizing, developing and implementing the Block Plan. In addition to the above mentioned report two other documents from the first year, The Block Plan Grade Seven Instructional Manual and The Differentiated Support Option Handbook give, in detail, instructional programs that were developed in the study. All three documents are available from Alberta Education, Edmonton, Alberta.

The data presented in this report, Two Years on the Block Plan, focus on the effect of the Block Plan on student attitude, student achievement, and parent and teacher reaction. The most interesting aspect of the second year data is its similarity to that of the first year. The similarity of the data, especially with regard to student outcomes, over the two years increases the reliability of the findings. The only difference between the treatment in the first and second years of the study was that the teachers received much more support in terms of inservice, preparatory periods, and curriculum development in the first than they did in the second year.

The Block Plan utilized the concept of a pair of teachers being assigned to two classes for the homeroom period plus the four academic core subjects. The typical pair was language arts–social studies and mathematics–science. The main features of the Block Plan include many aspects such as flexible scheduling, joint planning by teachers, special attention to the teachers' role in student counseling and reading, use of community resources, integrating subject areas, and the use of an option as a "support course." The support course is essential to the Block Plan in that it allows the use of heterogeneous grouping for all classes in the grade. Implemented only at the grade seven level, the Block Plan was designed to overcome problems that students encounter in making the transition from an elementary school to a larger junior high school. In both years, students in the Block Plan showed better attitudes to school, schooling, and their class than the control group. While this attitude change was indicated by the total

population, the bottom 35% of students seem to be affected the most. Especially in the second year, the improved attitude seems to stem from an improved relationship with the teachers. The total group, in both treatment years, showed higher gains in all achievement areas than the control group; while average and better students in the treatment group did less well than the control group in language arts. Some factors unique to this particular version of the Block Plan may account for this.

Teacher satisfaction in the Block Plan was very high. Parents' reaction was also positive.

The conclusion of two years of study of the Block Plan is that if the Block Plan were modified to give more help to the average and better students in language arts (and this could be done in several ways), it would be much superior to the departmentalized instructional organization. The study, in general, brings to the forefront the whole question of the school's committment to affective education and whether a large gain in the affective domain is worth some trade-off in academic achievement. Especially where the early adolecent is concerned the conclusion seems obvious.

Acknowledgements

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And finally,

the Block Plan teachers for being the dedicated teachers that they are and for their willingness to share and discuss their experiences:

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TWO YEARS ON THE BLOCK PLAN (1980 TO 1982)

This report presents data that have been collected over a 2-year period in a large junior high school in Alberta, Canada. The study is an attempt to monitor the effect of changing from a typical junior high school with a heavily departmentalized structure to one with a Block Plan, an instructional organization which increases teacher-teacher, student-teacher, and student-student contact. This typically departmentalized junior high school had been experiencing considerable student behaviour difficulties especially in grade seven. The school administration became concerned with attendance, attitude of the students and general school conduct . Exclusions of students from classrooms and school suspensions were at a high level in grade seven. These difficulties seemed to stem from students' being unable to make the transition from a self contained grade six classroom to the departmentalized grade seven situation, from a large number of students who came from homes unable to give them the necessary support and from the general behaviour of the typical junior high school entrant in this community.

Besides the administration, teachers likewise were expressing concern over the attitude of their classes. The extremely wide range of ability that existed in some of their classes made effective instruction difficult. The school program placed most problem learners (differentiated students) into three classes (and as such these students accounted for about 20% of all students in these classes) for the convenience of scheduling mathematics and language arts remediation classes. These three classes consisting as they did of 20% very slow students became problematic for science and social studies teachers.

The teachers in the school initially thought the problems of attitude and the problem inherent in teaching to a wide range of ability could be solved by ability grouping. A consideration of other schools' experiences in this area(9),(14) led to a search for alternative patterns for instruction. Of the number of alternative patterns for instruction which are currently in use in "schools for the middle grades" the teaching staff (especially the eight teachers who would be involved most directly with the grade seven program) felt a system of instruction which increased teacher-student contact

would be advantageous. Such a system would represent a move away from the departmentalized set up then in practice in the school.

The Second Year

The report covering the first year of the study has been made in The Block Plan[1] The current report extends the monitoring to cover a two-year-period. The second-year monitoring adds considerably to the reliability and validity of the study. The first year is more likely to have present a halo or Hawthorne effect which should be considerably less the second year. In two years' results, patterns begin to show up so anomalies in results can be identified. The second year also saw a 25% turnover in the teaching force, in this way we were studying the effect of the program rather than the effect of eight particular teachers.

PURPOSE OF THE STUDY

The study consisted of developing and implementing the Block Plan in a large junior high school at the grade seven level only and monitoring the effects of this implementation. The areas monitored were:

1. administrative data – attendance and frequency of teacher's disciplinary actions.
2. student attitude to school, class and teachers.
3. student achievement.
4. parents' reaction to their child's schooling.
5. teachers' reactions.

The monitoring was designed to determine the effect of the Block Plan on the students' attitude to school and secondly to see how the students' achievement was affected. Finally we looked at parent and teacher reaction.

The Block Plan

The block system in some form as an alternative pattern for instruction is well established within recent developments in the middle school(10). Although some investigations have been carried out, the evidence does not conclusively support any

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[1] Alberta Education, October, 1981

particular version of the system(11),(21). At any rate, most of the studies have been carried out in settings in the United States where the community and educational structures are rather different than our Canadian settings. Studies of junior high schools made in Calgary(6), Red Deer(24), Saskatchewan(25) and Manitoba(17), all lend support to a block system (a cooperative teaching approach).

The essential features of the Block Plan as agreed upon by the school personnel in the current study were heterogeneous classes, pairs of teachers assigned to four core areas, and a support option for very slow students in mathematics and language arts. Other enabling features were the principal assigning 180 minutes per day to the pair who would make their own schedule and teachers taking greater responsibility for the personal-social dimension of the students' school life as well as their students' general learning skills such as reading and writing.

A Description of the Block Plan

The grade seven enrolment, being 210 students, was divided into eight classes. The total time assigned to the academic core per class was to be 20 periods (6-language arts, 4-social studies, 5-mathematics, 5-science.) A third given parameter was that about 10% of the enrolment would be given extra help in language arts and mathematics. Within these conditions the following 10 guidelines were used in setting up the Block Plan for the grade seven classes, students, and teachers.

1. All eight grade seven teachers are paired, making 4 blocks, each block being assigned 55 students.

2. Each teacher will teach two subjects such as language arts-social studies or science-mathematics.

3 Teachers are assigned in pairs according to teachers' preferences for a colleague and subject areas.

4. All students are assigned heterogeneously to the eight classes.

5. Each teacher has one of the classes in the block for a homeroom.

6. Each pair of teachers are essentially assigned to their group of 55 students for 180 minutes per day. This"block" assignment will mainly occur as a block of time, probably from 9:00 to 12:00.

7 Teachers within each block schedule their own time for subjects.

8. Teachers act as primary counselors for students in their homeroom. Teacher pairs are encouraged to discuss and share perceptions of all of the students assigned to them.

9. *A Differentiated Support Option*[2] is designed to assist the "differentiated student" in language arts and mathematics.

10. A single period in guidance is offered to each homeroom. This period becomes available as language arts contact was reduced by one period per week.

In addition to these particular initial guidelines, as the workshops progressed several other directions were articulated and generally accepted by the grade seven teaching group and the administration The general direction of the Block Plan would be to:

1. Minimize the problems of adjustment of students to junior high school.

2. Make a bigger commitment to the emotional, social and general learning of students as opposed to a heavily cognitive emphasis.

3. Use flexible scheduling to best advantage, avoiding pitfalls inherent in longer periods of contact with students.

4. Achieve a spirit of cooperation among teachers which could yield improvement in program articulation (between core classes and between the core class and the D.S.O.), and in the counseling of students.

5. Give teachers a greater responsibility for the education of their students and, perhaps give them greater independence from the central school administration.

6. Allow teachers to know their students better and thereby be more aware of difficulties in subject matter areas (including reading) and in personal adjustment. Together with his/her Block pair, the teacher would be in a position to give immediate help.

7. Identify reading as a general skill upon which all teachers in the Block Plan could work.

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[2]The Differentiated Support Option is a course offered two periods per week to low achievement students in mathematics and/or language arts who are encouraged to take it. Each option is taught by two of the eight teachers in grade seven and serves as a support to the regular core courses.

8. Identify language arts skills as the responsibility of all Block teachers.

9. Encourage teachers to attend to the concerns of the two or three very slow students in their classes.

10. Adapt the curriculum to the students' needs and interests.

11. Place greater emphasis on the overlap between subject areas which in turn will result in stressing the application of learning.

12. Use the above-mentioned overlap and application emphasis and flexible scheduling to further contact with the community by means of field trips.

13. Encourage teachers to get to know their students quickly.

14. Encourage teachers to consult their Block pair in counseling a student.

15. Encourage teachers to make home contacts early in the year especially where a student is encountering difficulty.

The actual instructional treatment that occured under the Block Plan was not documented specifically. During the first year teachers were asked to teach one interdisciplinary unit of three weeks' duration. These units are now available in The Grade Seven Block Plan Instructional Manual.[3] Also during the first year, teachers of the Differentiated Support Option in Language Arts and Mathematics recorded their activities in The Differentiated Support Option Handbook.[4] During the second year, no particular instructional development was engaged in by the project. The evidence given by the teachers in the Process Monitoring section of this report[5] suggests only minor innovations in classroom instructional procedures. We can only surmise that the teachers' instruction changed because of knowing students better, having flexibility in scheduling, and the teacher teaching two subjects to the same students. In any event, no evidence suggests that major instructional changes occured.

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[3]Alberta Education, October, 1981
[4]Alberta Education, October, 1981
[5]See page 25 of this report.

MONITORING

Product Monitoring

The same control group as that used in the previous year's study was used. The control group consisted of 228 students. The treatment group (T 81) consisted of 209 students. While the treatment group which is the focus of this report (T 82) consisted of 216 students. As in the previous year's study, any students who did not complete the year or who transferred in after January 1, 1982 were excluded.

The report will give all three groups statistics:

Control – grade seven class of 1979–80

T 81 – grade seven class of 1980–81

T 82 – grade seven class of 1981–82

T 81 and T 82 received identical treatments and identical testing so the comparision is possible. The statistical analysis is always made between the control group and the treatment groups. For example:

	L.A. Sub–score
Control	66.5(58)
T 81	72.8(45)**
T 82	70.5(48)*

means the mean score of the Control group–66.5–compared to the mean score of the 1981 Treatment group–72.8–was significantly different at the .01 level, while the Control group compared to the mean score of the 1982 Treatment group–70.5–was statistically significant at the .05 level. The numbers in parenthesis is the number of students in each group included in the analysis.

The following variables[6] are reported on:

Student Administrative Variables

1. *Attendance*
2. *Exclusions*

Student Attitude Variables

3. *Barker-Lunn Attitude Scale* – a ten–scale "school–climate" instrument

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[6]Note: Teacher variables were not analyzed in the second year.

4. *My Class* – a five-scale "attitude-to-class" instrument

5. *School Subject Attitude Scale* – a three dimensional instrument measuring liking of a subject, usefulness and difficulty

6. *EPS student opinion survey*

Student Achievement Variables

7. Mathematics Curriculum Achievement–*Math Survey Test*

8. Mathematics Basic Skills–*Computation Test*

9. Language Arts Curriculum Achievement–*Language Arts Final*

10. Language Arts Basic Skills–*Language Arts Final-Sub-score*

11. Reading Comprehension–*Canadian Test of Basic Skills*

Parent Attitude Variables

12. *EPS parent opinion survey*

The details of the analysis are presented in *The Block Plan.*[1] In general, three groups are analyzed.

Total group–all students for whom the relevant data was available.

High-Average group–students who scored in the 30th percentile or higher on the Edmonton Public Schools standardized tests in mathematics and reading given in grade six. In this study, this consisted of the top 65% of the total group.

Low group–students who scored lower than the 30th percentile on the Edmonton Public Schools standardized tests in mathematics or reading given in grade six. In this study, this consisted of the bottom 35% of the total group.

For some analyses two other groups of students were identified.

Slow group–students who scored lower than the 20th percentile on the Edmonton Public Schools Standardized tests in mathematics or reading given in grade six. In this study, this consisted of the bottom 20% of the total group.

Advanced group–students who scored in the 70th percentile or better on <u>both</u> the Edmonton Public Schools standardized tests in mathematics and reading given in grade six. Approximately the top 20% of students.

Also consistent with the first year's report, analyses of covariance is done on all achievement variables.

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[1]Alberta Education, October, 1981

Process Monitoring

The process monitoring was an attempt to gain an insight into the internal workings of the program. Did teachers actually cooperate? How did they do so? What features of the Block Plan seem especially important? What features did teachers appreciate? What features did they not appreciate? How did they use their counselling periods? Was the D.S.O. (Differentiated Support Option) being used effectively? What in fact does it mean to be a teacher in the Block Plan?

Procedure. Four (of the eight teachers) were visited in their classrooms three times over the year. Each visit was followed by an indepth interview based on the observations. Teachers were encouraged to comment freely upon any dimension of the block plan.

Findings of Product Monitoring

Reporting format

The five categories of students reported on are

Total –all eligible students

Hi-average–top 65% (approx.)

Low –bottom 35% (approx.)

Slow –bottom 20% (approx.)

Advanced –top 20% (approx.)

Number of students in each analysis is given in parenthesis behind the mean: .961(103).

The three comparision groups are

Control–students in 1979–80 (traditional junior high)

T 81 –students in 1980–81 (first year of the Block Plan)

T 82 –students in 1981–82 (second year of the Block Plan)

The asterisk symbol (*) is used consistently throughout the report as follows:

** indicates statistical significance at .01 level.

* indicates statistical significance at .05 level.

Several students were dropped from the analysis because of the January cutoff date and

because of missing data.

	Total number in each group	After January Cutoff	Covariate or Blocking Variable Missing
Control	228	216	48
T 81	209	197	24
T 82	215	200	47

Table 1. Numbers of students in study

Student administrative variables

Attendance.

	Total	Hi-Av.	Low
Control	.942(216)	.961(103)	.940(65)
T 81	.9[illegible]**(194)	.965(113)	.953(61)
T 82	.938(200)	.951(108)	.945(53)

Table 2. Fraction of student days present

The difference in fractions are not large. Only the Low group had a consistently high attendance record in the treatment groups.

Exclusions.

	Total	Hi-Av.	Low
Control(216)	551	103(103)	258(65)
T 81(194)	278**	94(114)	139(62)
T 82(200)	314**	84(108)	163(53)
Percent decrease T 81	49.5%	10%	46%
T 82	43.0%	18%	36%

Table 3. Total classroom exclusion

Significant differences show in both years for the total group. The percent decrease in both treatment years is large even in the High-Average and Low groups.

Student attitude variables

Four instruments are reported here: *Barker-Lunn School Attitude Scale, My Class, School Subject Attitude Scale* and *EPS Student Opinion Survey*.

Barker-Lunn School Attitude Scale.

A multivariate analysis was done on the ten subscales of this instrument.

Total group.

Scale	1	2	3	4	5	6	7	8	9	10
Control(100)	3.3	2.6	7.7	9.7	2.7	2.1	3.0	2.7	2.8	10.7
T 81(97)	3.8	3.1	8.0	11.2	3.2	2.0	3.5	2.8	3.1	11.5
T 82(91)	3.6	3.0	7.9	11.1	3.2	2.0	3.3	2.4	3.0	11.0

Table 4. Means of ten scales of *Barker-Lunn School Attitude Scale*–Total group

The results are almost identical in the two years. The treatment groups are consistently higher except for subscales #6 and #8. The multivariate analysis showed both treatment groups to be different from the control group at the .05 level.

The analysis of variance for each scale separately yielded:

Subscale	T 81	T 82
1. Attitude to school	.05	N.S.
2. Interest in schoolwork	.05	N.S.
3. Importance of doing well in school	N.S.	N.S.
4. Attitude to class	.05	.05
5. "Other" image of class	.01	.01
6. Conforming versus non-conforming pupil	N.S.	N.S.
7. Relationship with teacher	N.S.(.07)	N.S.
8. Anxiety in the classroom situation	N.S.	N.S.
9. Social adjustment–getting on well with classmates	N.S.	N.S.
10. Academic self-image	N.S.	N.S.

Table 5. Subscale of *Barker-Lunn Attitude Scale* indicating significant differences–Total group

The two scales which show up in both treatment years are "how other students see their classes" and "their attitude toward their own class." The attitude toward their school and

toward school work were significant only in the first treatment year. Further analysis on combinations of subscales yielded:

	T 81	T 82
Sum of all ten subscales	.01	.05
Sum of first seven subscales–attitude to schooling and class	.01	.01
Sum of first three subscales–attitude to schooling	05	N.S.
Sum of last three subscales–attitude to oneself	N.S.	N.S.

Table 6. Four groupings of subscales of the *Barker-Lunn School Attitude scale,* indicating significant differences–Total group

The treatment groups show very consistently a more positive attitude to their view of schooling–including how relevant schooling is and what they think of their classes and teachers. They also were consistently more positive about their total attitude on their place in the whole educational process.

High-Average Group.

	1	2	3	4	5	6	7	8	9	10
Control(56)	3.7	2.9	8.0	9.9	2.7	2.2	3.8	3.2	2.9	12.6
T 81(55)	3.9	3.3	8.0	11.2	3.3	2.1	3.7	3.1	3.1	12.7
T 82(51)	3.8	3.1	8.4	11.6	3.2	2.1	3.9	2.7	3.2	12.7

Table 7. Means of ten subscales of the *Barker-Lunn School Attitude Scale*–High–Average Group

Both treatment years are higher or equal to the control on all but subscales 6, 7, and 8. However the multivariate analysis of variance showed no significant differences for either year. Analysis on the combination of subscales yielded:

	T 81	T 82
Sum of all ten subscales	N.S.	N.S.
Sum of first seven subscales–attitude to schooling and class	N.S.	.05
Sum of first three subscales–attitude to schooling	N.S.	N.S.
Sum of last three subscales–attitude to oneself	N.S.	N.S.

Table 8. Four groupings of subscales of the *Barker-Lunn School Attitude Scale*, including significant differences–High–Average Group.

The High–Average group shows fewer significant differences on the combinations than the Total group.

Low group.

	1	2	3	4	5	6	7	8	9	10
Control(29)	2.9	2.3	7.4	9.6	2.6	1.8	1.9	2.0	2.6	8.3
T 81(33)	3.8	2.7	8.0	11.2	3.0	2.0	3.3	2.6	3.0	9.8
T 82(25)	3.2	2.7	7.1	10.0	3.0	2.0	2.1	2.0	2.9	8.0

Table 9. Means of ten subscales of the *Barker-Lunn School Attitude Scale*–Low Group.

The treatment groups are higher or equal to the control for all subscales except subscales 3 and 10. The multivariate analysis showed no significant difference for the total vector for either treatment years. An analysis of combinations of subscales yielded:

	T 81	T 82
Sum of all ten subscales	.01	N.S.
Sum of first seven subscales–attitude to schooling	.01	N.S.
Sum of first three subscales	.05	N.S.
Sum of last three subscales	.05	N.S.

Table 10. Four groupings of subscales of the *Barker-Lunn School Attitude Scale*, indicating significant differences–Low Group.

Clearly this analysis shows the first year of the treatment affected the Low group more positively than did the second year.

Summary.

	Total		Hi-Av.		Low	
	T 81	T 82	T 81	T 82	T 81	T 82
Vector of means	T*	T*	N.S.	N.S.	N.S.	N.S.
Sum of 10 (school attitude)	T**	T*	N.S.	N.S.	T**	N.S.
Sum of first 7 (school life)	T**	T**	N.S.	T*	T**	N.S.
Sum of first 3 (school work)	T*	N.S.	N.S.	N.S.	T*	N.S.
Sum of last 3 (personal-social)	N.S.	N.S.	N.S.	N.S.	T*	N.S.

T* treatment group favoured at the .05 level
T** treatment group favoured at the .01 level

Table 11. Summary of *Barker-Lunn School Attitude Scale.*

This summary shows a similar effect in both treatment years. The effect in the second treatment year is slightly less dramatic and seems more evenly distributed in High-Average and Low groups, whereas in the first treatment year, the effect showed up mainly in the Low group.

My Class.

My Class consists of five subscales: satisfaction, friction, competitiveness, difficulty and cohesion.

Total group.

	1	2	3	4	5
Control(108)	14.1	22.6	21.3	15.9	16.9
T 81(93)	16.4	20.6	20.7	15.5	18.1
T 82(96)	18.6	19.8	20.7	14.6	17.2

Table 12. Means of five subscales of *My Class*-Total Group

A glance shows both treatment groups responded to their class with

1. more satisfaction
2. less friction
3. less competitiveness
4. less difficulty

5. more cohesiveness

The multivariate analysis of variance showed the vector of means for both treatment years to be significantly different than the control group at the .01 level. Further analysis of subscales yielded:

	T 81	T 82
Satisfaction	.01	.01
Friction	.01	.01
Competitiveness	N.S.	N.S.
Difficulty	N.S.	.01
Cohesiveness	.05	N.S.

Table 13. Subscales of *My Class*, indicating significant differences–Total Group.

The treatment groups both showed greater satisfaction and less friction. The analysis of combinations of subscales yielded:

	T 81	T 82
Sum of satisfaction and cohesiveness	.01	.01
Sum of friction and competitiveness	.05	.01
Sum of friction, competitiveness, and difficulty	.05	.01

Table 14. Three groupings of subscales of *My Class*, indicating significant differences–Total Group.

This is strong evidence that the treatment groups felt better about their class and classmates than did the control groups. The second year treatment group appears to be even more positively affected than was the first year.

High-Average group.

	1	2	3	4	5
Control(45)	13.5	22.6	21.1	15.6	16.9
T 81(55)	16.3	21.1	21.1	15.3	18.1
T 82(56)	18.3	20.1	21.0	14.2	17.0

Table 15. Means of five subscales of *My Class* –High–Average Group

Again, both treatment groups are favoured on all subscales. The multivariate analysis of variance showed significant differences only in the case of the second treatment year at the .05 level. Analysis of single subscales for the second treatment group yielded:

	T 81	T 82
Satisfaction	N.S.	.01
Friction	N.S.	.01
Competitiveness	N.S.	N.S.
Difficulty	N.S.	N.S.
Cohesion	N.S.	N.S.

Table 16. Subscales of *My Class*, indicating significant differences–High–Average Group.

Analysis of three groupings of subscales yielded:

	T 81	T 82
Sum of satisfaction and cohesiveness	.01	.01
Sum of friction and competitiveness	N.S.	.01
Sum of friction, competitiveness and difficulty	N.S.	.01

Table 17. Three groupings of subscales of *My Class*, indicating significant differences–High–Average Group

The results for the High–Average group show this category to be much more affected in the second treatment year.Satisfaction and friction subscales are the best indicators.

Low group.

	1	2	3	4	5
Control(33)	15.8	23.3	21.9	15.8	18.0
T 81(27)	17.4	20.3	21.2	16.4	18.4
T 82(23)	19.3	19.9	21.0	15.6	16.6

Table 18. Means of five subscales of *My Class*–Low Group.

The results fairly consistently favour the treatment groups. The multivariate analysis of variance showed the vector of means to be significantly different than the control group for both years at the .05 and .01 levels respectively. Analysis of single subscales yielded:

	T 81	T 82
Satisfaction	N.S.	.01
Friction	.01	.01
Competitiveness	N.S.	N.S.
Difficulty	N.S.	N.S.
Cohesion	N.S.	N.S.

Table 19. Subscales of *My Class*, indicating significant differences–Low Group.

Analysis of the grouping of three subscales yielded:

	T 81	T 82
Sum of satisfaction and cohesiveness	N.S.	N.S.
Sum of friction and competitiveness	.05	.01
Sum of friction, competitiveness and difficulty	N.S.	.05

Table 20. Three groupings of subscales of *My Class*, indicating significant diferences–Low Group.

In these two tables "friction" is consistently significantly less in the two treatment groups. The combined subscales of "friction and competitiveness" also is significantly reduced in both treatment years.

Summary.

	Total		Hi–Av.		Low	
	T 81	T 82	T 81	T 82	T 81	T 82
Vector of means	T**	T**	N.S.	T*	T*	T**
Satisfaction–Cohesiveness	T**	T**	T**	T**	N.S.	N.S.
Friction–Competitiveness	T*	T**	N.S.	T**	T*	T**
Friction–Competitiveness–Difficulty	T*	T**	N.S.	T**	N.S.	T*
Single scales–Satisfaction	T**	T**	N.S.	T**	N.S.	T**
Friction	T**	T**	N.S.	T**	T**	T**
Difficulty	N.S.	T**	N.S.	N.S.	N.S.	N.S.
Cohesiveness	T*	N.S.	N.S.	N.S.	N.S.	N.S.

Table 21. Summary of *My Class*.

In general, students in both years had a much "better" attitude toward their class. In the first year treatment group, the Low students(bottom 35%) accounted for most of the

improved attitude. In the second treatment group, the High-Average students show up even more strongly than the Low students in their improved attitude to their class. Here we assume a "better" attitude is one with more satisfaction, less friction, less difficulty and more cohesion.

School subject attitude

Students' attitude toward two school subjects were tested: Mathematics and Language Arts. For each subject, the scales give a rating on evaluation (liking or disliking), usefulness and difficulty as perceived by the students. A score of zero(.00) is neutral with the extremes being +3 and -3.

Mathematics

	Evaluation	Usefulness	Difficulty
Control(112)	.28	1.22	.00
T 81(104)	.52	1.34	.00
T 82(102)	.23	1.39	-.12

Table 22. *School Subject Attitude Scales*-Mathematics

Simple t-tests applied to these means showed none to be significant.

Language Arts

	Evaluation	Usefulness	Difficulty
Control(115)	-.11	.84	-.22
T 81(99)	-.02	.73	-.08
T 82(102)	.21*	1.14*	-.05

Table 23. *School Subject Attitude Scales*-Language Arts

Both significant differences on evaluation and usefulness for the second treatment year favour the treatment group. The treatment group students liked the subject more and found it more useful than did the control group.

EPS student opinion survey.

The results were analyzed in two ways. First a comparison between groups on the proportion of "satisfied" responses and secondly a comparison on the proportion of

"dissatisfied" responses. The proportion of respondents for all 3 groups is given below. The key word in the item is indicated.[1] Obviously irrelevant items are not reported. A test of the "difference between two independent proportions" was used.

Item	C(42)	T 81(40)	T 82(32)	C(42)	T 81(40)	T 82(32)
	satisfied			dissatisfied		
1. options available	.64	.93*	.78	.33	.03*	.19
2. usefulness of courses	.57	.75	.66	.14	.10	.13
3. basic skills	.74	.63	.69	.05	.13	.03
4. homework	.62	.63	.59	.33	.23	.19
5. learning	.69	.75	.78	.19	.05	.09
6. mark determination	.59	.48	.50	.35	.28	.22
7. reporting to parents	.64	.53	.66	.26	.23	.25
8. principal	.64	.85*	.78	.29	.03*	.13
9. assistant principal	.64	.75	.78	.31	.05*	.09*
11. teachers	.52	.60	.75*	.31	.13*	.13(*)
12. counselor	.88	.75	.78	.05	.25*	.03
13. planning assistance	.40	.25	.41	.12	.18	.03
14. say in decisions	.36	.35	.34	.33	.23	.16
15. discipline	.43	.50	.63	.43	.33	.22(*)
16. behaviour of others	.36	.45	.31	.57	.30*	.46
17. behaviour out of class	.45	.40	.28	.48	.43	.34
18. school rules	.64	.55	.78	.21	.23	.09
19. how others treat you	.64	.75	.66	.33	.13*	.28
21. getting classes you like	.57	.73	.81*	.31	.18	.09*
22. lunch arrangements	.52	.75*	.78*	.33	.15	.13*
23. extra curricular	.76	.80	.81	.14	.10	.09
27. teacher interest in you	.50	.57	.51	.33	.18	.16
28. chances of succeeding	.64	.80	.78	.24	.10	.06*
29. numbers of pupils per class	.76	.82	.88	.17	.10	.00*
30. length of class period	.64	.73	.72	.31	.25	.09*
31. school in general	.57	.80*	.78*	.19	.05*	.16

* indicates significant difference at the .05 level.
(*) indicates significant difference just above the .05 level.

Table 24. Proportion of "satisfied" and "dissatisfied" responses on *EPS Student Opinion Survey*

In both years, there are many more significant differences in the "dissatisfied" column which suggests that the treatment in both years is having a greater effect on "dissatisfied" kids. Important significant differences all favouring the treatment groups in the "satisfied" column are

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[1] A copy of the survey is in the Appendix.

8. principal

11. teachers

21. getting classes you like

31. school in general

Important significant differences all favouring the treatment group in the "dissatisfied" column are

8. principal

9. assistant principal (both years)

11. teachers

15. the way discipline is handled

16. behaviour of others

19. how others treat you

21. getting classes you like

28. chance of succeeding

29. number of pupils per class

30. length of the class period

31. school in general

Four of these items show up in both the "satisfied" and the "dissatisfied" columns:

8. principal

11. teachers

21. getting classes you like

31. school in general

There is very little difference between the two treatment years. The second year has, however, several items showing significant differences that centre on the teacher and the classroom environment:

11. teachers

15. the way discipline is handled

21. getting classes you like

28. chance of succeeding

29. number of pupils per class

30. length of the class period

Several individual items are worth noting. Dissatisfaction with the counselor no longer shows up in the second year group. Lunch arrangement satisfaction could well be due to the common practice under the Block Plan of teachers allowing students to eat lunch in their homerooms. Also the fact that there are no differences in items 2 to 7 which all relate to teachers' policies (usefulness of courses, basic skills, homework policy, amount of learning, mark determination, reporting to parents) indicates that the improvement in the students' view of "the teacher and the classroom environment" was probably due to improved interpersonal relationships with the teacher.

Student achievement variables

Five achievement variables are reported on:

1.Edmonton Public School Board Mathematics Survey –*Math Survey*

2.Computational Test on Basic Operations –*Comp.*

3. Language Arts Final Test–*L.A. Total*

4.Language Arts Final (Sub–score)–*L.A. sub-score*

5.Canadian Test of Basic Skills–*Reading*

These tests were analyzed for five groups: Total, Advanced, High–Average , Low and Slow. All tests were analyzed separately by an analysis of covariance using either the Canadian Cognitive Abilities Test quantitative or verbal score as the covariate. Again the number of students in each analysis varies due to missing test scores.

Total group. For the total group the means on the Canadian Cognitive Abilities Test were:

	Verbal	Quantitative
Control	104.3(167)	102.9(165)
T 81	104.9(168)	102.0(171)
T 82	105.7(157)	102.6(153)

Table 25. A comparision of the Control and Treatment Groups on *Canadian Cognitive Abilities Test*(covariate)–Total Group

The Total group can be seem to be quite similar on the basis of the covariate. The analysis of covariance on the five tests yielded:

	Math Survey	Comp.	L.A.Total	L.A. Sub-score	Reading
Control	46.5(165)	26.2(132)	113.1(158)	79.9(169)	44.8(167)
T 81	45.8(171)	27.8(120)**	110.0(131)	81.4(131)	47.1(168)*
T 82	47.2(153)	27.7(148)**	112.1(157)	82.3(157)	44.8(151)

Table 26. Unadjusted means on achievement tests, indicating significant differences on analysis of covariance-Total Group.

The only significant differences are the computation scores in both years at the .01 level and the reading score in the first year treatment group. All these differences favour the treatment groups.

High-Average group.

	Verbal	Quantitative
Control	110.6(98)	109.3(97)
T 81	109.6(111)	107.1(112)
T 82	110.4(107)	108.4(105)

Table 27. A comparision of the control and treatment groups on the Canadian Cognitive Abilities Test(covariate) -High-Average Group

This comparison on the covariate shows verbal scores to be very close while the first year treatment group is somewhat lower on the quantitative score. The analysis of covariance showed means on five tests as:

	Math Survey	Comp.	L.A.Total	L.A. Sub-score	Reading
Control	54.4(97)	28.3(76)	123.9(98)	88.3(98)	51.2(98)
T 81	51.1(112)	28.7(83)	118.7(84)*	87.0(84)	51.2(111)
T 82	52.9(105)	29.0(102)	120.1(107)	87.8(107)	49.0(104)*

Table 28. Unadjusted means on achievement tests, indicating significant differences on analysis of covariance-High-Average Group

The two significant differences in the language arts total score and in the reading score

both favour the control group in the first and second years respectively.

Low group.

	Verbal	Quantitative
Control	94.1(56)	92.7(57)
T 81	95.9(55)	92.6(57)
T 82	94.6(48)	90.1(45)

Table 29. A comparision of the control and treatment groups on the Canadian Cognitive Abilities Test (covariate)–Low Groups.

All groups were similar on the verbal score. However one of the treatment groups had a lower quantitative score. The analysis of covariance on five tests yielded:

	Math Survey	Comp.	L.A.Total	L.A. Sub–score	Reading
Control	33.8(57)	23.2(48)	89.4(47)	66.0(58)	33.3(56)
T 81	36.2(57)	25.6(37)*	94.8(45)*	71.6(45)**	39.5(55)**
T 82	34.9(46)	25.0(45)*	93.2(48)	70.5(48)*	35.2(46)

Table 30. Unadjusted means on achievement tests, indicating significant difference on analysis of covariance–Low Group

All five tests consistently favour the treatment groups. Six of the differences were statistically significant. The low group was definitely affected positively by the treatment.

Slow group.

	Verbal	Quantitative
Control	90.8(40)	89.2(41)
T 81	93.6(35)	89.4(37)
T 82	93.3(41)	86.9(40)

Table 31. A comparision of the control and treatment groups on the *Canadian Cognitive Abilities Test* (covariate)–Slow Group.

The verbal covariate is low for the control group. The analysis of covariance on four

tests yielded:

	Math Survey	Comp.	L.A. Sub-score	Reading
Control	30.7(41)	22.3(35)	64.0(42)	31.3(40)
T 81	35.6(37)*	24.5(22)	71.0(31)***	38.5(35)***
T 82	32.6(81)	23.8(29)	68.9(31)	35.7(29)

Table 32. Unadjusted means on achievement tests, indicating significant differences on analysis of covariance-Slow Group.

As for the Low group, the Slow group shows every score favouring the treatment groups, three of these differences are significant.

Advanced group.

	Verbal	Quantitative
Control	118.2(37)	116.9(37)
T 81	121.5(22)	113.7(31)
T 82	119.0(35)	114.4(35)

Table 33. A comparision of the control and treatment groups on the *Canadian Cognitive Abilities Test* (covariate)-Advanced Group

The control group has a higher quantitative score while the first year treatment group has a higher verbal score. The analysis of covariance on five tests yielded:

	Math Survey	Comp.	L.A.total	L.A. Sub-score	Reading
Control	62.4(37)	29.8(25)	137.6(37)	96.9(37)	57.5(38)
T 81	58.8(31)	30.8(22)*	136.6(22)	97.3(22)	58.8(31)
T 82	61.5(35)	30.2(35)	133.7(35)	96.1(35)	55.8(34)

Table 34. Unadjusted means on achievement tests, indicating significant differences on analysis of covariance-Advanced Group.

Although the control group is consistently higher on the Math Survey and L.A. total scores, the only significant difference on the analysis of covariance is in favour of the

first year treatment group on the computation score.

Parent attitude variable

EPS parent opinion survey

The results of the survey were analyzed in two ways. First, the proportion of "yes" responses were compared between the control and treatment groups. Secondly, the "no" responses were compared. For a substantial number of items, the "no" responses were too small to be meaningfully analyzed.

Item	C(37)	T(33) "Yes"	T(40)	C(37)	T(33) "No"	T(40)
1a. (i)Reading/Writing/Speaking	.92	.76	.80	.03	.06	.03
1a. (ii)Grammar/Spelling	.76	.73	.78	.14	.12	.08
1b. Mathematics	.89	.85	.83	.05	.00	.08
1c. Science	.86	.79	.83	.08	.00	.08
1d. Social Studies	.89	.73	.83	.08	.03	.03
2. Discipline	.51	.55	.65	.19	.27	.15
3. Child likes school	.72	.85	.90*	.16	.09	.10
4. Use of money	.54	.66	.73	.11	.06	.03
5a. Child's teacher	.73	.79	.90*	.11	.12	.00*
5b. School principal	.89	.76	.93	.05	.03	.03
6. Feel welcome at school	.86	.85	.85	.00	.03	.03
7. Voice in decisions	.57	.67	.63	.16	.12	.10
8. Informed about your child	.73	.91*	.80	.22	.06	.08
9. Guidance and counseling	.70	.79	.53	.08	.09	.05
10. Extracurricular	.70	.85	.78	.08	.00	.08
11. Attendance handling	.89	.91	.80	.11	.06	.05
13. Class size	.46	.70*	.63	.41	.06*	.25*
14. Child's school	.86	.82	.90	.08	.03	.05
15. Planning for high school	.46	.48	.53	.16	.03	.03*

Table 35. Proportion of "yes" and "no" responses on the *EPS Parent Opinion Survey*

In the "yes" column four important items significantly favour the treatment groups.

3. child likes school

5a. satisfaction with child's teacher

8. being informed about their child

13. class size

The "satisfaction with child's teacher" and "class size" show up significantly different in the "no" column, along with parents feeling less negative about the "planning for high

school." In addition to this, out of 38 comparisions in the "no" column only 4 favour the control group. This, in all, gives some indication that parents are responding favourably to the *Block Plan*.

Report of Process Monitoring

The basic question with which we are dealing is: what is it like to teach under a Block Plan arrangement? The answer was sought through a series of three visits and observations to four of the teachers. Three of the teachers had been in the Block Plan in the same school in the first year of the study. The fourth teacher was in his first year of teaching and had been paired with an experienced teacher who had agreed to help him overcome some of the problems of a beginning teacher. In an attempt to understand teaching in the Block Plan, the observations have been grouped in four areas: students, teachers, the programs, and the school as an institution. In a study of this nature, only four teachers were studied, most of the observations are those reported by the teachers (although three visits were made to each classroom). The generality of these observations is open to question. No comparison was made to other teachers in a regular grade seven class. Because the observations have to stand on their own we have tried to give as full a description as possible.

Students.

The most unique feature of any junior high school is the students. Early adolescents with all their developmental trauma are a challenge to any teacher. In fact, an outside observer might feel that a typical junior high school (departmentalized) is set up so as to minimize the interpersonal contact between teacher and student. The Block Plan is set up to maximize this contact. Not only is the quantity of contact increased but the quality of contact changes: the Block pair feels more directly responsible for students in its charge. This "responsibility" is probably directly related to the parental contact made by the teacher. One teacher, for example systematically makes monthly phone calls to parents of 6 kids of the 55 in the Block--a communication which the parents asked for.

Communication with parents is a many dimensioned affair. First of all, a teacher generally only communicates over problems. Secondly, a teacher only communicates if he

feels communication will help. Thirdly, the teacher will communicate only if he feels there is a problem and not just a personality conflict. And finally, teachers sometimes find that the parent is the cause of the student's problems so the communication is more involved than simply asking the parent's advice on the matter. The teachers reported a considerable amount of contact with parents although one teacher said his contact with parents decreased when things were going well. In general teachers did not contact a parent before consulting with their Block partner. One teacher instituted a weekly report on the students' work which could lead to a parent contact. In general, the parent contact was made directly by the teacher, there was no suggestion of formal contact through school channels.

The interviews for the purpose of this study with teachers were held during lunch hours in the teacher's rooms. The interviewer soon sensed that he was disrupting an important activity – students eating lunch in the rooms with the teacher. In each case, the teacher would simply say that the room was not available for lunch this day. Teachers reported having 15 "kids" in their rooms for lunch. They reported students preparing for tests, helping the teacher and socializing in a pleasant atmosphere. Even the supervision of this activity did not hold the teacher in the room over the lunch hour. Responsible students could supervise adequately with the "threat" of the lunch hour priviledge being revoked. The lunch hour activity not only fulfilled an important practical function but allowed teachers to know students in an important light. Teachers reported students' classroom performance improving after a period of time in the lunchroom sharing.

The single most important feature of the observations on student aspects of teaching was the extent to which individual student names arose during the interview. Every teacher discussed individual students. Discussions of individual students often arose in a comparing of their Block classes. The students came to know other students in the other class in their Block. Some teachers used, in their lessons, the reactions of the other class to a particular lesson. All of the teachers were really involved with the students in their Block classes. They especially mentioned the ease of "keeping track" of assignments, class books, and students' progress. Even so fundamental a reality as "marking up desks" is easy to attend to because "I know who it is!" There was even the suggestion of grade sevens being a rather closely-knit group as one teacher reported

learning a lot about the students' school lives in an option class as a group of grade sevens would be "sitting around talking about things." The informality of some classroom exchanges is exemplified in the following exchange.

Teacher: "Bert, where're you going?"

Bert: "Nowhere."

Teacher: "That's what I thought."

The reader should not be left with the impression that informality characterized even a majority of lessons. The students still typified grade seven student populations. Teachers were, for the most part, extremely firm, demanding on assignments, and ever watchful for incidents that could grow into major difficulties. The interest they showed in their students served to raise the general level of classroom activity and served to make the classroom a healthier environment for early adolescents.

Teachers.

While the student contact with teachers and the teacher contact with students were increased, the Block Plan demanded that the teachers teach two subjects, one of which some of the teachers were not as well prepared to teach.A science teacher, for example, claimed that he had never taught mathematics before. The Block Plan also called for teachers to cooperate with one other teacher. These two aspects of the Block Plan could have served as a source of frustration. The observations suggest that in general they didn't. The teaching of two subjects was helped by the fact that some of the teachers had taught in elementary school previously. On the other hand, cooperation between teachers was not forced upon them. They were free to cooperate or not. Clearly some pairs of teachers cooperated more closely than other pairs. In some cases, the degree of cooperation is arrived at by mutual agreement; in other cases, one teacher "gives up" in his attempts at furthering cooperation. Cooperation can range from simply agreeing on a timetable to planning and carrying on lessons together. These extra demands placed on the teacher, if met, could possibly produce greater teacher satisfaction.

All of the teachers interviewed "cooperated" with their Block pair to the extent of discussing students in their pair of classes. This sharing of student information seems particularly useful at the beginning of the year. Two teachers can very quickly get an

accurate "reading" of their students early in the school year. Beyond this many teachers are not willing to go. But discussing a student can go far beyond the "usual staffroom bantering of names". The discussion can well get into what assignment expectations are, the seating arrangement used, sharing parent information, and, in fact, sharing what each teacher believes is important for that particular student. These discussions of students, then, need not be trivial affairs. In the case of one pair of teachers, these discussions proceeded to the point of the teachers arranging special mathematics and language arts instruction to accomodate the range of student achievement. For example, for one of the five mathematics periods, they arranged to split the groups into a "catch up" class and an "extension" class. Also the extent of the student-information sharing was illustrated by another teacher: "I don't think there's a day goes by where we don't ask each other about somebody." Such extensive contact could be a valuable problem solving channel especially where difficult students are concerned.

In addition to the student-information sharing, teachers cooperated somewhat in the matter of field trips. Two classes can conveniently share a trip and often assignments are made from two or more subject areas. In one case, the pair consisted of a first-year teacher and an experienced one. Here the sharing went so far as to team-teaching for the purpose of the beginning teacher observing planning and teaching of the more experienced one. Although the "sharing" may have been one-sided, the Block Plan provided an excellent vehicle for first-year support. Within the Block Plan, teachers shared somewhat, not only with their partner, but with other teachers of the same subjects.

Cooperation among teachers in junior high schools is not easily attained. Not all pairs communicate equally effectively. In fact, some pairs have extreme difficulty in sharing. The answer to this concern is not in finding teachers with identical perspectives. A certain divergence of perspective may be important for the students in the group and may provide the necessary leverage for a good exchange of ideas between teachers. Degree of participation does not seem to be a function of teacher confidence or teacher ability. Teachers, first of all, have to be able to see some of the benefit of cooperating, secondly, a physical mechanism, such as a common preparation time, must be provided and finally, some help (training) in interpersonal communication could be a benefit.

In addition to teacher cooperation, teacher style seems to have been affected by the Block Plan. One teacher found it easier to involve students in the instructional process such as marking easily-marked assignments and peer teaching or the buddy-system of helping. He also found it easier to arrange his instruction (through the use of the double period) so that he could get some of his own work done. The atmosphere in this classroom was one of everyone working -getting things done-as opposed to the teacher-centred, teacher-giving-out-information classroom. Another teacher found that he did more group work and board work. With the classes becoming so familiar, the organizational aspect of these instructional procedures was less demanding. Part of the change in style for these teachers was the result of using the two subjects they taught to both classes to complement each other. Both of these teachers particularly enjoyed the breadth of instructional activity possible when teaching two different subject areas such as language arts and social studies or science and mathematics.

The degree of teacher satisfaction with the Block Plan was high. All teachers enjoyed the complementarity of the two subjects they were teaching. Several of them mentioned the flexibility of having classes for two periods was an advantage over 40-minute periods. One teacher said that in addition to other beneficial aspects, the Block Plan was better because

> "It is less work. Preparation is less. There are fewer parents to contact. It takes only one-half hour to make comments on report cards because there are only 50 to go through. You can remember what each report card is like."

Teacher satisfaction might also come from students who have a better attitude to school and a more positive attitude toward their teachers. Junior high school students in grade seven seem to enjoy having closer contact with fewer teachers and classes that remain intact. This enjoyment certainly contributes to teacher satisfaction.

Program.

Although teachers followed all the conventional guidelines for the curriculum, several indications pointed to a changing program for the students. Teachers having greater control over the kids meant more homework and assignments were done properly. Teachers, as they got to know students' academic work in two areas, became more knowledgeable about students' command of basic skills. Teachers indicated that they responded in some cases by instituting special basic skill sessions. As mentioned

earlier one pair instituted "catch-up" and "extension" classes. The flexibility of the Block Plan schedule meant teachers had students engaging in activities that they might not otherwise have engaged in. The science class is more likely to have extended laboratory sessions which permit more detailed investigations. Certain audio-visual activities are more appropriately handled in longer periods. The suggestion here is that these activities take on a different character and students learn different things in these longer periods. Related to this is the change in program due to some overlap of subjects. Overlap was not extensive but it meant such things as more interesting language arts writing if social studies topics were used, more accurate microscopic work if mathematics in the form of fractions and scale drawings could be applied, a more fruitful study of the metric system in mathematics if scientific illustrations were used and more thorough social studies reports if language arts skills and techniques were encouraged. This type of everyday overlap was added to, in some cases, by more comprehensive interdisciplinary units. All of these modifications made possible by the Block Plan meant that students were getting a different program than students received under the departmentalized junior high school system.

One major area of program difference was for the "differentiated" students. Under the Block Plan all students were exposed to the full grade seven curriculum. Previously "differentiated" students did not study the full curriculum in language arts and mathematics but rather focussed on the more basic skills. The students received extra support from the Support Option but their program was identical to every other students'. The regular classroom teachers of the "differentiated" students did not seem to be very aware of which students were in the Differentiated Support Option. This apparent lack of communication among teachers in the support courses and regular classroom teachers is another indication of lack of cooperation among teachers where cooperation might have paid off. Of course, it can be argued that the differentiated student himself should be able to communicate on his own behalf to the support option teacher. The teacher also indicated some reluctance to switch students from one group to another within the support option or out of the support option altogether. Regardless of whether or not the Differentiated Support Option classes were operating in the most effective manner, the Block Plan provided a program in language arts and mathematics

considerably different from the one previously offered.

Institutional aspects of school.

Because the block pair has a major responsibility for their group of students, they can run somewhat independently of the rest of the administrative structure of the school. This shows up in several ways. First, the principal did not assign specific subjects to be taught but simply assigned 20 periods for each of the two classes to the two teachers. The teachers, then, decided how they would use these periods. They could furthermore juggle the periods around to suit their instruction. The administration, then, was often unaware as to where any class was at any particular time. Secondly, the pair of teachers became somewhat independent of the school administration in arranging out-of-school trips. Only one or two option teachers needed to be contacted in the case of out-of-school visits. Thirdly, the teachers, as a pair, had more say in the reassigning of problem students to other classes-an inevitable event in any junior high school. The administrative staff held meetings with all eight Block teachers to discuss possible movement of students. The teachers were asked for their advice on where to place certain students. The classroom teacher had, in this way, a much greater chance to have an impact on the administration of students. The teachers of the students in grade seven through the Block Plan were in a position to have a more unified teacher view presented to the administration in student matters. Finally in the area of parent contact, between the two of them, the Block teachers could feel quite on their own. The teachers could certainly feel the contact would benefit not only the student but the teachers themselves, also.

The concept of teacher independence from the adminstration and teacher responsibility to the student is an intriguing one. Perhaps only certain teachers are capable of benefiting from such a situation. The notion that the eight grade seven Block teachers form a teaching unit responsible for the grade seven program and that within this group, a pair of teachers has the responsibility for the fifty-five students in their classes was not pushed in this project. Perhaps more should be made of it. It was an idea that seemed to emerge as more observations of the Block Plan were made. Perhaps, too, this kind of independence cannot be given to anyone; it will only be theirs if they choose to take it. The observations suggest that there is a considerable amount of room for

improvement in this area.

Summary.

The observations, then, supported certain generalizations in four areas: students, teachers, the program and the school as an institution. No claim is made that this will be the result of any particular attempt at an implementation of the Block Plan. Any implementation would stress various aspects of this instructional organization. The type of guidance and support that the teachers receive from the school administration will have a decided effect on the type of Block Plan which gets implemented. The type of financial support in terms of such things as field trips and preparation, planning, team sharing, and counseling periods will affect the final product. Finally the teachers' understanding of the philosophy and goals of their version of the Block Plan will be the single greatest determinant of how this instructional organization becomes actualized. For this particular implementation, teachers were given rather few specific guidelines and the resultant product was very much due to their own attempts to sort out what was and what was not important. The Block Plan does seem to be a scheme which will work without a lot of predetermined arrangements which are subsequently imposed on the teacher. The only external decision, once the pair of subjects are chosen, is the teacher's partner. If the teacher, then, choses to operate as if he were teaching in a traditional departmentalized junior high school he could do so but probably not realize the full potential of the Block Plan. The "full potential" of the Block Plan will, like an individual's full potential, always remain an unknown quantity (and quality) just as the "full potential" of education in a democracy will largely remain an unknown.

Conclusions.

The product and process findings over two years (Sept, 1980 to June, 1982) yield a considerable amount of data. What kind of coherent picture emerges over these two years? What can be said with confidence about the Block Plan that represents its strengths and weaknesses? The conclusions are grouped into five categories: students, parents, teachers, programs, and the Block Plan in a junior high school.

Students

On all attitude measures the treatment groups in both years show up better than the control group. The number of classroom exclusions are low in both treatment years. The similarities between the two treatment years are strong. The students' attitude to their class and to "how others see their class" is particularly strong. Both "satisfaction" and "lack of friction" characterize this reaction. In the two treatment years, the first year shows the bottom one-third of students with the most noticeable attitude change, while the second year shows students in the top two-thirds of the class to have the most noticeable change.

In trying to analyze further the particular things students felt better about, the Student Opinion Survey suggests "dissatisfied" students are not as dissatisfied which in turn suggest that the lower students are those most affected by the Block Plan. Categories showing up most positively with students were the principal, the teachers and liking their classes. In the second year, especially, students focussed upon the teacher, their class, and classroom related aspects as positive elements. One item especially noteworthy is "Your chances for succeeding in your courses." One in four students in the control group were "dissatisfied" with their chances. This decreased to one in ten in the first treatment year, to one in sixteen in the second treatment year. Surely this one factor alone could account for a large part of the improved attitude. But why do Block Plan students feel they have a better chance of succeeding? Knowing their teachers better, as they probably do in the Block Plan, might lead to them knowing more what their teachers want which in turn might lead to a feeling of an improved chance of succeeding. Another indication that some of the improved attitude results from improved interpersonal relations with teachers is that, in the second treatment year, 90 percent of parents were satisfied with their child's teacher while not a single parent in the sample was dissatisfied with their child's teacher. Furthermore the practice of Block Plan teachers allowing the classroom as a lunchroom and usually sharing part of the lunch hour with the students might further suggest improved teacher-student relationships.

The argument being made in the preceeding paragraph is that the general improvement of students' attitude to school, schooling, classes, and school personnel seems to centre on an improved attitude to their class which in the Block Plan is a

heterogeneous group which remains largely intact. Further, the students' feeling about their class does not seem to stem from a changed attitude toward the subjects taught but more from improved interpersonal relations with the teacher. This is, of course, fairly speculative but the interview data would seem also to support this hypothesis. Grade seven students (at least as represented in this school) seem to enjoy and appreciate and benefit from improved student-teacher relations. While interpersonal relationships between teachers and students is being singled out here, a whole array of elements in the Block Plan (parent contact, overlap of subjects, teachers cooperating, heterogeneous, intact classes, and teacher's greater responsibility for their students) clearly all contribute to this outcome.

Further to this last point, students in the second treatment year did, in fact, change their attitude to language arts as a subject. They both liked it better and found it more useful than did the control group. The change could well have come about from a closer integration between language arts and social studies for 6 out of the 8 classes. The interview data suggests there was also a considerable overlap between language arts and science. This is an extremely important finding in view of the only negative aspect to the Block Plan is that the upper two-thirds of the students scored lower in the reading-language arts area. This is partly explained by the decrease from 7 language arts periods per week in the control group to 6 in the Block Plan. Perhaps this trade-off in reading-language arts for the upper two-thirds of the students does not look so bad when we weigh it against students' liking language arts more and finding it more useful. Of course one of the intents of the interdisciplinary thrust of the Block Plan was to improve these two aspects of this skill subject. No such change was detected, however, in the mathematics area.

The above-mentioned attitude change to the school and the class was, in fact, the primary objective of the study. Having achieved this objective, the question of interest, now, is how achievement was being affected. The answer, in general, is that there were few differences for the total group of students. However, the bottom one-third of the students in both treatment groups scored better than the control group in four of the five test scores. The bottom 20% shows a similar pattern. The only negative aspect of the achievement monitoring shows up for the top two-thirds of the students. For these

students, the areas of reading and language arts, as mentioned above, seem to have fared less well under the Block Plan. The top 20% of the class, on the other hand, showed the treatment groups scoring higher on the computation tests but very little difference on the other scores.

To what could we attribute the improved performance for the lower one-third of the class? The most significant program change in the Block Plan was the Differentiated Support Option. This program affected at most 20 students while the lower one-third included approximately 55 students. The D.S.O. may have helped but it does not account for all the improvement. The improved attitude of the lower students could well have contributed to higher achievement. Also teachers in the Block Plan, as shown, in the process monitoring seemed to pay a good deal of attention to basic skills, an improvement in which could affect achievement scores even in general curriculum tests. The lowering in language arts and reading scores for the top two-thirds of the class is partly due to the reduction of the language arts time by one period per week The fact that the language arts subject was better liked and found to be more useful by the treatment group might suggest that there was a re-focussing of the language arts program away from skills to more "interesting applications" of language arts study. The slight decrease could also be due to half of the language arts teachers in the Block Plan not being language arts specialists and, also, not being totally familiar with the grade seven language arts curriculum. However none of the mathematics teachers were mathematics specialists either, yet, a similar decline in mathematics scores was not detected. The drop in reading scores for the top two-thirds group is not easily explained. The lower group, in fact, shows an improved reading score. In any comment, on the language arts-reading scores for the top two-thirds of the students, it must be remembered that on the language arts basic skills test there were no differences.

The students in the lowest one-fifth of the class scored higher for both treatment groups in all test scores. This consistency supports the earlier claim that the Block Plan is an instructional system which benefits lower students in all areas of achievement and attitude. On the opposite end, the top one-fifth of the class scored lower in the general curriculum tests in mathematics and language arts but scored higher in the basic skills test in mathematics and language arts. As one would expect the scores

of the students in the top 20% of the class on the typical year-end achievement tests were not affected by the Block Plan. Although there is no evidence, these students might have been benefiting by liking language arts more and finding it more useful. This data would suggest the top students in general, although they have improved attitudes toward school, their class and their teachers, fared slightly less well in the achievement tests under the Block Plan.

The achievement tests used in this study were purposely the ones typically used in the school system. As such they represent the learnings that junior high schools traditionally find important. No attempt was made to test broader learnings such as the applications of language and mathematics. An assumption can fairly safely be made that learning in the broader application areas of language arts and mathematics would have been greater under the Block Plan in view of the extensive amount of overlap of subject areas.

Parents

The parents' reaction to the Block Plan is interesting mainly because it does not reflect the positiveness of the students' reactions. Over the two years, however, several trends show up. A greater proportion of parents felt that their child liked school. Combined with this more parents felt they were better informed about their child. Thirdly more parents (up to 90%) were satisfied with their child's teacher. This would have to suggest that parents noticed the benefit of the Block Plan in as much as it affected their child's relationship with the teachers, which in turn suggests that teacher's interpersonal relations with the students was an important element in the Block Plan.

Teachers

The teachers' reactions to the Block Plan as interpreted through interviews and observations were, in general, positive. Increased student contact and schedule flexibility were appreciated by teachers. Being able to share perceptions of difficult students with another teacher was also appreciated. Sharing on curriculum, especially interdisciplinary matters, was not as easily achieved. The teachers seemed to manage a considerable amount of overlap between the two subjects that they were teaching. Of all the advantages of the Block Plan, teachers appreciated the increased student contact because it made student and classroom management easier. As any junior high school

educator knows there is still a lot of "looking after" activities on the part of the teacher–assignments, books, materials, and performance levels. The Block Plan enables the teacher to be more on top of the situation.

Programs

The interview data and the product monitoring indicate that the overlap of subjects leads to a changed curriculum, a curriculum that is more application oriented and more useful. The D.S.O. program also meant that even the lowest achievement students were getting the full grade–seven curriculum–not a basic skills course. But even though the Block Plan offered this potentially richer curriculum, it compared favourably with the traditional junior high school organization on fairly traditional "narrow" achievement tests and, of course, out–scored the traditional program in attitude measures.

The Block Plan in a Junior High School

Implementing the Block Plan means the administration of the school must relinquish some of its central control, authority and responsibility to the classroom teacher. Under the Block Plan, the teachers are more directly involved with the parents and certainly more directly responsible for students. In the final analysis, a reasonable hypothesis would be that the Block Plan succeeds because it places the responsibility for the education of the student more fully in the hands of a classroom teacher and a colleague. Principals implementing the Block Plan, then, must try to realize how the issue of the transference of responsibility is best achieved.

One of the most encouraging aspects of the two–year study reported here is the similarity of the data for the two years: an improved attitude to almost all aspects of school life for the total grade seven class, an improved achievement for the lower one–third of the class and a suggestion of a decrease in achievement for the upper two–thirds of students especially in language arts. These conclusions, in fact, beg a question: Is a richer school life (as evidenced in the attitude scores) for all students worth a trade–off in achievement for better students? In other words, what commitment does the school have to affective education? Does the commitment only exist to the extent that the principal does not see too many students in his office? Does it exist only for the sake of facilitating academic achievement? Or should affective education be an end in itself? The Block Plan seems to beg the question. Especially for the early adolescent, the

affective dimension of the educational enterprise should be prominent.

Recommendations

The second year study of the Block Plan has a great deal of relevance for all junior high schools in Alberta. The conclusions suggest that the implementation of the Block Plan requires special attention to the areas of teachers working cooperatively together and the matter of teachers being adequately prepared to teach in two subject areas. Although the study was conducted in one particular community, it has significance for any large junior high school, while many of its features could be adapted to smaller schools as well.

FURTHER RESEARCH

1. The trade-off in achievement for the average and better students should be investigated.
2. The "support option" concept should be carefully studied, both its operation and its goals.
3. The overlap of subject areas should be further studied, including interdisciplinary units.
4. The block system, modified appropriately should be developed for other grades in the junior high school.
5. The whole process of "instruction in the block system" should be more fully studied. Variables should include longer periods, the slow student, overlap of subjects, and teacher cooperation, to mention a few.
6. Curriculum analysis of the school program and its commitment to social-personal goals and their relationships to the more traditional cognitive goals should be undertaken.

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3. Sigurdson, Sol E. ed., *The Differentiated Support Option Handbook*, Alberta Education, October, 1981.

APPENDIX

List of testing instruments used. Asterisk (*) indicates that a copy of the instrument is contained in this appendix.

1. *Canadian Cognitive Abilities Test*, Thomas Nelson and Sons, 1974.
2. *Canadian Test of Basic Skills, Form 3M, Metric Edition*, Thomas Nelson and Sons, 1974.
3. *Edmonton Public Schools, Junior High Mathematics Survey Test, Grade Seven, Form 1, Part 1 and Part 2*, March 1976.
4. *Edmonton Public Schools, Elementary Mathematics Survey Test*, January 1979.

*5. *Edmonton Public Schools, Parent Opinion Survey*, 1980, 1981.

6. *Edmonton Public Schools, Elementary Reading Test*, January 1979.

*7. *Edmonton Public Schools, Student Opinion Survey*, 1980, 1981.

8. "Language Arts Final" – developed by the language arts department of Edith Rogers School, June 1980.
9. "Mathematics Year-End Computation" – developed by the mathematics department head of Edith Rogers School, June 1980.

*10. *My Class* – developed by Gary J. Anderson, Atlantic Institute of Education, Halifax, Canada, 1971.

*11. "School Attitude Scale" – based on *Primary School Attitude Scales* developed by Joan Barker-Lunn, National Foundation for Educational Research, 1966.

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EDMONTON PUBLIC SCHOOLS, PARENT OPINION SURVEY

EDMONTON PUBLIC SCHOOLS WOULD LIKE YOUR VIEWS.....

This questionnaire asks your feelings and opinions about your child's school. In order to keep costs down, we are sending it to a random sample of parents. But to get reliable results we will need responses from all of the sample. Each questionnaire has been numbered so that we can determine who has not returned the completed questionnaire. The parents who have not responded will be followed up by telephone to obtain a response from everyone. Returning your questionnaire promptly by mail will reduce the number of telephone follow-up calls needed.

We will treat your responses completely confidentially. The report will contain only statistical summaries and anonymous comments, without identification of individual respondents. A prepaid envelope is enclosed for your convenience - - just drop it in a mailbox - - it doesn't need a stamp. THANK YOU - - your participation is very much appreciated.

Dr. H. Moeychuk
Assistant Superintendent Monitoring Systems,
Edmonton Public Schools,
429-5621 Ext. 370

_____ JUNIOR HIGH

For each item below place a check mark in the appropriate square according to how you feel about the question.

	YES	NO	UNDECIDED	INSUFFICIENT INFORMATION
1. Are you satisfied with the way the school is handling each of the following programs(emphasis, content, quality of instruction, etc.)?				
(a) Language Arts/English				
(i) Reading/Writing/Speaking/Listening	☐	☐	☐	☐
(ii) Vocabulary/Spelling/Grammar	☐	☐	☐	☐
(b) Mathematics	☐	☐	☐	☐
(c) Science	☐	☐	☐	☐
(d) Social Studies	☐	☐	☐	☐
(e) Physical Education	☐	☐	☐	☐
(f) Second Languages	☐	☐	☐	☐
(g) Fine Arts (Music/Art/Drama)	☐	☐	☐	☐
(h) Health/Perspectives for Living	☐	☐	☐	☐
(i) Industrial Arts/Home Economics	☐	☐	☐	☐
(j) Group "B" Options	☐	☐	☐	☐
2. Do you feel student discipline is being handled well at the school?	☐	☐	☐	☐
3. Do you feel your child likes school?	☐	☐	☐	☐
4. Do you feel the school system is using its money in a reasonable manner?	☐	☐	☐	☐
5. In general, are you satisfied with:				
(a) your child's teacher(s)	☐	☐	☐	☐
(b) the school Principal	☐	☐	☐	☐
(c) the Associate Superintendent of Schools for your Area	☐	☐	☐	☐
(d) the Superintendent of Schools	☐	☐	☐	☐
(e) the Board of Trustees	☐	☐	☐	☐
6. Do you feel welcome at the school?	☐	☐	☐	☐
7. Do you feel you have an adequate voice in school decisions that affect your child?	☐	☐	☐	☐
8. Do you feel you are being satisfactorily informed about your child's learning progress?	☐	☐	☐	☐
9. Are you satisfied with the guidance and counseling services at the school?	☐	☐	☐	☐
10. Are you satisfied with the extracurricular programs offered at the school(sports, school plays, concerts, clubs, etc.)?	☐	☐	☐	☐
11. Are you satisfied with the way attendance is handled at the school?	☐	☐	☐	☐
12. Do you feel the non-teaching employees at the school, such as secretaries, aides and custodians, are helpful and friendly?	☐	☐	☐	☐
13. Do you feel that the number of pupils in your child's classes is appropriate?	☐	☐	☐	☐
14. Generally, are you satisfied with your child's school?	☐	☐	☐	☐
15. Are you satisfied with the assistance provided by the school to you and your child in planning for high school and career?	☐	☐	☐	☐

Is there anything else you would like us to communicate to the Board or Administration?

PLEASE USE THE OTHER SIDE OF THIS QUESTIONNAIRE FOR YOUR COMMENTS.

1980

EDMONTON PUBLIC SCHOOLS

GRADES 7 - 9

...how you feel about school. Please check the box which best describes your feelings about the following:

		I'm satisfied	I'm dissatisfied	I'm not sure
1.	The number of option courses open to you	☐	☐	☐
2.	The usefulness of your courses	☐	☐	☐
3.	The emphasis on basic skills (such as reading, writing, math)	☐	☐	☐
4.	Your homework assignments	☐	☐	☐
5.	How much you are learning	☐	☐	☐
6.	How your marks in the courses are determined	☐	☐	☐
7.	What the school tells your parents about how you are doing in school	☐	☐	☐
8.	Your principal	☐	☐	☐
9.	Your assistant principal	☐	☐	☐
10.	The office staff	☐	☐	☐
11.	Your teachers	☐	☐	☐
12.	Your counselor	☐	☐	☐
13.	High school and career planning assistance	☐	☐	☐
14.	The say that you have in school decisions that affect you	☐	☐	☐
15.	The way student discipline is handled	☐	☐	☐
16.	The behavior of other students in class	☐	☐	☐
17.	The behavior of other students out of class	☐	☐	☐
18.	School rules and regulations	☐	☐	☐
19.	The way other students treat you	☐	☐	☐
20.	How attendance problems are handled	☐	☐	☐
21.	The opportunity to get into the classes that you would like	☐	☐	☐
22.	Lunch arrangements	☐	☐	☐
23.	The extracurricular program (sports, school plays, concerts, clubs, etc.)	☐	☐	☐
24.	The Students' Union or Council	☐	☐	☐
25.	The school buildings, grounds and equipment	☐	☐	☐
26.	The way you get to and from school	☐	☐	☐
27.	The interest that your teachers have in you	☐	☐	☐
28.	Your chances for succeeding in your courses	☐	☐	☐
29.	The number of pupils in your classes	☐	☐	☐
30.	The length of your class periods	☐	☐	☐
31.	Your school in general	☐	☐	☐

Is there anything else you would like us to communicate to the Board or Administration?
PLEASE USE THE OTHER SIDE OF THIS QUESTIONNAIRE FOR YOUR COMMENTS